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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/797,900	03/10/2004	James J. La Clair	1133.022US1	3353
21186	7590	12/11/2006	EXAMINER	
SCHWEGMAN, LUNDBERG, WOESSNER & KLUTH, P.A.			LIN, JERRY	
P.O. BOX 2938			ART UNIT	
MINNEAPOLIS, MN 55402			PAPER NUMBER	
			1631	

DATE MAILED: 12/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/797,900

Applicant(s)

CLAIR, JAMES J. LA

Examiner

Jerry Lin

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 1, 11 and 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-10 and 12-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 1 page (8/3/04).

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group II (claims 2-10 and 12-20) in the reply filed on October 2, 2006 is acknowledged. The traversal is on the ground(s) that Group I and Group II are both found in the same class and are searchable together. This is not found persuasive. Although Group I and Group II are found in the same class, each group contains its own set of limitations that must be searched separately. Since each group requires its own search, an examination of Group I and Group II would be a serious burden.

The requirement is still deemed proper and is therefore made FINAL.

Status of the Claims

Claims 2-10 and 12-20 are under examination.

Claims 1, 11, 21-23 are withdrawn as being drawn to an unelected invention.

Claim Rejections - 35 USC § 112, 2nd Paragraph

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-10 and 12-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Instant claims 2 and 12 both recite "stream of digital data." It unclear what this term means. Digital data is numerical information. A stream of digital data is a series of numerical information. It is unclear how a series of numerical information is to pass through a solid object such as a substrate.

4. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 4 and 13 recites the broad recitation photon source, and the claim also recites laser beam which is the narrower statement of the range/limitation.

5. Regarding claim 6 and 15, the instant claims recite a "digitally encoded molecular current." The instant specification does not define the term, nor does a search of the art provide any clear definition. The Examiner has interpreted this to meant a signal generated from the molecule (e.g. fluorescence).

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6. Regarding claims 8 and 18, the instant claims recites "by means of an expression defined in force, time or space." It is unclear what this phrase means. On the one hand, the phrase may mean some sort of mathematical equation is use. On the other had, the phrase may mean that force, such as heat, is added to the substrate. The Examiner will use the latter interpretation.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 2-10 and 12-20 are rejected under 35 U.S.C. 102(e) as being anticipated by O'Keefe (US 2002/0004204 A1) in light of Berlien et al. (US 5850195).

The instant claims are drawn to a method of transferring a stream of digital data through a substrate, allowing the interaction of a molecule with the substrate, receiving streams of digital data transferred through a substrate, and decoding the identity of the molecule interacting with the substrate according to the alteration of the stream of digital data.

Regarding claims 2 and 12, O'Keefe teaches a method and device that includes creating at least one stream of digital data and transferring it through a substrate (page

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6, paragraph 0065; page 8, paragraph 0082, 0083); manipulating the molecular structure of the substrate by allowing the interaction of molecules with the substrate (page 2, paragraph 0012); receiving streams of digital data transferred through the substrate (page 10, paragraph 0106-0107); and determining the identity of the molecule (page 2, paragraph 0012; page 10, paragraph 0106-0107).

Regarding claim 3, O'Keefe teaches altering the stream according to a programmable function (page 8, paragraph 0086-0088).

Regarding claims 4, 5, 13, and 14, O'Keefe teaches using a laser beam that is polarized (page 8, paragraph 0082-0083).

Regarding claim 6 and 15, O'Keefe teaches creating a digitally encoded molecular current (page 10, paragraph 0106-0107).

Regarding claims 7, 16, and 17, O'Keefe teaches generating digital electronic signals by gating electron flow over a two or three dimensional space (page 10, paragraph 0107) as taught by Berlien et al. (US 5850195) (please see Berlien et al., throughout).

Regarding claim 8-10 and 18-20, O'Keefe teaches controlling heat to add molecules in a two-dimensional surface or a three dimensional element (page 10, paragraph 0108-0110; page 6, paragraph 0062-0064).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jerry Lin whose telephone number is (571) 272-2561. The examiner can normally be reached on 10:00am-6:30pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang, can be reached on (571) 272-0811. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Representatives are available to answer your questions daily from 6 am to midnight (EST). When calling please have your application serial or patent number, the type of document you are having an image problem with, the number of pages and the specific nature of the problem. The Patent Electronic Business Center will notify applicants of the resolution of the problem within 5-7 business days. Applicants can also check PAIR to confirm that the problem has been corrected. The USPTO's Patent Electronic Business Center is a complete service center supporting all patent business on the Internet. The USPTO's PAIR system provides Internet-based access to patent application status and history information. It

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also enables applicants to view the scanned images of their own application file folder(s) as well as general patent information available to the public.

For all other customer support, please call the USPTO Call Center at (800) 786-9199.

MICHAEL BOBIN, PH.D.
PRIMARY EXAMINER



JL